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IMPERIAL MYCOLOGICAL INSTITUTE 25 JULY 1938

ROME
VILLA UMBERTO I
1938

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(XXVII^TH^ YEAR)

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ROME — PRINTING OFFICE 'DITTA CARLO COLOMBO'

NOTES ON THE INTERNATIONAL INSTITUTE OF AGRICULTURE

Permanent Committee (June Meeting 1938). — The second meeting of 1938 of the Permanent Committee of the Institute opened on Wednesday June 1 at 10 a. m., and closed on Thursday at 1 p. m.

During this meeting the Permanent Committee—in addition to the usual questions: the Secretary General's Report on the Services and Administration, financial and staff matters, etc.—considered the following questions: first exchange of views on the resolutions passed by the XIVth General Assembly; draft Agenda for the meeting of the Mixed Agricultural Consultative Committee in Rome on October 10, 1938; results of the consultation of Governments regarding international agreements on wine records and denominations of wines; results of the consultation of Governments on the Report of the Small Committee of Cereal Chemists; Report of the Sub-Committee of the Permanent Committee appointed to study the work of the Institute on tropical and sub-tropical agriculture and horticulture; Report of the Publications Sub-Committee; Report of the Sub-Committee studying the resolutions and votes of the Congresses; Report of the Sub-Committee studying the situation and functioning of the consultative, liaison and coordinating bodies of the Institute.

PRESS COMMUNICATION

Wheat Crop Prospects. — The International Institute of Agriculture on June 28, 1938 issued to the press the following summary of the general position of world wheat crops.

The present characteristics of the wheat crops are (*a*) a very large probable production in nearly all the surplus-producing regions, and (*b*) a roughly average outturn in the non-exporting countries taken as a whole.

On June 1 the United States reported an unusually large winter wheat crop, namely, nearly 21 million tons, or 11 per cent. more than the outturn obtained last year and 66 per cent. more than the rather low average of the five years 1932 to 1936. Spring wheat expectations were also very high at about 6.5 million tons. The total indicated production may thus be a record of a thousand million bushels, a level previously reached only in 1915. A crop of this magnitude would yield an exportable surplus of about 9 million tons. The month of June was favourable for the spring crops but unfavourable for the winter crops, the latter being affected by black rust, particularly in the western Great Plains. The July estimate of the winter wheat crop will thus be smaller than the June figure. The Canadian spring crops continued their favourable development during May and the first three weeks of June; crop condition was maintained in most parts and was much better than the condition reported in the same period last year when part of the crops were already considered to have been lost.

On the whole, notwithstanding the damage done by black rust to the winter wheat crops of the United States, the outlook on June 20 still gave grounds for expecting that the total wheat production of North America would be distinctly larger than that of last year. A production equal to, or larger than, the average of the years 1928 to 1932 is still possible.

Crops were good or promise to be good in the surplus-producing countries of Asia, and about average in French North Africa. Winter wheat production is also reported to be large in the U. S. S. R. while the spring wheat prospects in this country are also favourable.

In Europe, the month of May and the first weeks of June were very favourable and the situation in the middle of June was satisfactory on the whole. Here again, the prospects were excellent in the six European countries that normally export (the Danube countries, Poland and Lithuania). The conjectural estimate of mid-June indicated a record production in these countries of 13.2 millions tons, an increase of 10 per cent. on last year and one of 26 per cent. on the average of the years 1932 to 1936. Prospects in the countries which normally import are very uneven but the outlook has improved substantially even in those which, like Italy, began the season unfavourably. Total production of the non-exporting countries is thus larger than the outturns of last year and 1936 and rather close to those of 1932, 1934 and 1935.

The state of the crops in the middle of June thus pointed to a total European production of nearly 45 million metric tons. The crop would, at this level, be the largest obtained, excepting that of 1933. It would be 3 million tons, or 7 per cent., larger than last year's outturn and more than 2 million tons, or 5 per cent. above the 1932-36 average. It is to be remembered, however, that the period of growth will be two weeks longer this year and that, consequently, the risks to be faced before the crops are safely harvested, are greater than usual.

The outlook on June 15 thus pointed to a plentiful and even over-abundant crop in the northern hemisphere. If the crops maintain their present promise, the total production of this hemisphere may be more than a hundred million tons, the U. S. S. R., Iraq, Iran and China excluded. This would be a record figure, 10 per cent. above last year's, 15 per cent. above the 1932-36 average and 10 per cent. above the average of the previous five years, 1927 to 1931. Moreover, sowings in the southern hemisphere were made in good conditions and Argentina reports an appreciable expansion over last year.

At present, the International Institute of Agriculture considers that only an exceptional combination of adverse circumstances could prevent world wheat production from exceeding that of last year and from yielding a rather heavy exportable balance in the group of exporting countries to meet a comparatively weak demand from the normally importing countries.

BOOKS PRESENTED TO THE LIBRARY OF THE INTERNATIONAL INSTITUTE OF AGRICULTURE

R. Accademia d'Italia. Annuario. v. 7-9. 1934-1937, XIII-XV. Roma, 1938, 648 p.

Agricultural economics society. Journal of proceedings of the Agricultural economics society. Report of conference held in London 7th & 8th December, 1937. [London, 1938]. 105-172 p.

Anuario Azucarero de Cuba 1938. Habana, Cuba económica y financiera, 1938. 116 p.

Andersen, K. Th. Der Kornkäfer (Calandra granaria L.). Biologie und Bekämpfung. Berlin, P. Parey, 1938. 108 p. (Monographien zur angewandten Entomologie. Beihefte zur Zeitschrift für angewandte Entomologie, hrsg. von K. Escherich. Nr. 13).

Annuaire du commerce international. L'Annuaire bleu. 1937. Paris, [1937]. 1015 p.

Annuaire national de l'agriculture. 4e éd. 1938. Paris, Société artistique de publications techniques, [1938]. 1120 p.

Argus de la presse. Nomenclature des journaux et revues en langue française du monde entier. [7e éd.]. Paris, 1936-37. 758 p.

The radio communiqués of the International Institute of Agriculture will be transmitted between 2.45 and 2.52 p. m. on the following days: Thursday, English *and* German; *Saturday,* Spanish; *Tuesday,* Italian *and* French.

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The hour of broadcasts is in Central European Time, which is one hour ahead of Greenwich Mean Time, and 5 hours ahead of Eastern Standard Time in the United States.

INTERNATIONAL BULLETIN OF PLANT PROTECTION

1938 No. 7

DISCOVERIES AND CURRENT EVENTS *

Angola: Red Locust (*Nomadacris septemfasciata*) †

During the course of January, 1938, in different districts of the provinces of Benguela, Bié and Huila, adults and eggs of *Nomadacris septemfasciata* Serv. were reported.

Crops were damaged to a certain extent.

Egypt: Phytopathological Certificates for Imported Agricultural Consignments §

It is the duty of the Ministry of Agriculture to assist and direct farmers in the control of plant pests by all possible means. This duty is not limited to the pests prevailing in the country; as it is equally important to guard against the entrance of pests with imported fruits, plants or seeds. For this reason, all agricultural imports are subject to examination in the custom houses and in accordance with present regulations only consignments free of diseases or infected with a disease that can be satisfactorily treated in the custom houses are allowed to enter the country.

As a further measure, the Ministry of Agriculture requires that importers should accompany every consignment brought to Egypt with a phytopathological certificate issued by the Government of the exporting country declaring that the consignment is free from all diseases, particularly those forbidden to enter Egypt in accordance with the laws and regulations of plant quarantine in force. This procedure is followed by all countries enacting agricultural quarantine measures, particularly those having signed the International Convention for Plant Protection of Rome (April, 1929), and Egypt is amongst these countries.

* Under this and the next heading the countries are arranged in French alphabetical order.

† Communication from Mr. Jorge de Barros Rodrigues Queiróz, Agricultural Engineer, Director of the Laboratory of Plant Pathology and Agricultural Entomology, Luanda, transmitted to the Institute by the General Government of the Colony.

§ Communication from the Ministry of Agriculture, Egypt, transmitted to the Institute by the Royal Legation of Egypt in Italy.

The importation of agricultural consignments not accompanied by the above-mentioned phytopathological certificates often necessitates the rejection of such consignments with undue loss to the importers. The Plant Protection Section of the Ministry of Agriculture therefore calls the attention of fruit, seed or plant importers to see that their agents in the exporting countries be charged to obtain and send the necessary phytopathological certificates.

To avoid possible losses, moreover, it is desirable that importers showed acquaint themselves with Egyptian legislation concerned with plant quarantine in order to see that their imports conform to it. To facilitate this, the following publications were issued by the Plant Protection Section for the benefit of the public in general and importers in particular:—

(1) Leaflet No. 37 of 1937. ' Customs Plant Quarantine in Egypt and a Résumé of its Legislation '. (In Arabic).

(2) Leaflet No. 26 of 1927. ' List of Insect Pests, Fungus and other Diseases Prohibited Entrance into Egypt '. (In Arabic and in English).

(3) Booklet No. 20 of 1937. ' Plant Quarantine Import Restrictions of the Kingdom of Egypt '. (In English).

These publications can be obtained from the Ministry of Agriculture, Extension Service, or from the ' Sale-Room ', Ministry of Finance, Cairo, Egypt.

Eritrea: Locusts *

During April and May, 1938, no locusts were reported in the Colony.

Réunion Island: A List of Parasites and Diseases of Cultivated Plants †

This list continues that published in 1933 (see this *Bulletin*, 1933, No. 6, pp. 123-124).

CASSAVA.

Tetranychus bimaculatus Harv.?
Cercospora cassavae Ell. and Ev.
A bacterial disease.

COFFEE.

Sooty mould.
Verticillium sp., a parasitic fungus of *Hemileia vastatrix* Berk. and Br.

GRAPE VINE.

Plasmopara viticola (Berk. and Curt.) Berl. and De Toni.
Uncinula necator (Schw.) Burr.
Gloeosporium ampelophagum de Bary.

APPLE.

Gloeosporium cingulatum Atk. (= *Glomerella cingulata* (Ston.) Sp. and Schr.).

* Communication from Dr. LUIGI M. BOLOGNA, Chief of the Agricultural Bureau of Eritrea, Asmara, transmitted to the Institute by the Government of the Colony.

† Communication from the official correspondent of the Institute, M. G. BOURIQUET, Director of the Laboratory of Phytopathology, Tananarive, Madagascar, on mission at Réunion Island.

PEACH.

Heterodera radicicola Greeff ?

DATE PALM.

Graphiola phoenicis (Moug.) Poit.

MAIZE.

Helminthosporium turcicum Pass.

GROUNDNUT.

Cercospora personata (Br. and C.) Ell. and Ev.
Sclerotium rolfsii Sacc.

BEANS.

Sclerotium rolfsii Sacc.

TOBACCO.

Mosaic.

TOMATO.

Bacterium solanacearum E. F. Smith.

GERANIUM.

Colletotrichum sp.

ROSE.

Marssonia rosae (Bon.) Br. and Cav.
Sooty mould.

DAHLIA.

Sclerotium rolfsii Sacc.
Entyloma dahliae Syd.

Italian Somaliland: Locusts *

During April and May, 1938, no locusts were reported in the Colony.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

Algeria. — By Decree of the President of the French Republic, dated January 13, 1938, the Decree of May 11, 1937 [see this *Bulletin*, 1937, No. 9, pp. 203-204] relative to the products utilized in the control of crop pests and diseases is made applicable to Algeria.

Besides the copies addressed to the Ministry of Agriculture, a copy of the catalogues and prospectus regarding the sale of the products mentioned in the Decree of May 11, 1937, should be transmitted to the General Government of Algeria by all persons trading in the said products. (Ministère de l'Agriculture. Direction de l'Agriculture. *Bulletin de l'Office de Renseignements agricoles*, Paris, 1er février 1938, année 1937, nº 3, p. 64).

Germany. — A Circular of the Forests Administration, dated January 28, 1938, recalls that the destruction of barberry (*Berberis vulgaris*), the host plant of the black rust of cereals (*Puccinia graminis*), is the most effective means of controlling this disease. The forest authorities are required to collaborate with

* Communication from Dr. LUIGI BOZZI, Acting Chief of the Agricultural Bureau of Italian Somaliland, Mogadiscio, transmitted to the Institute by the Government of the Colony.

the authorities responsible for plant protection in order that, on the request of the latter, the destruction of barberry may also be extended to the forests under the administration and control of the forest authorities. The outer limits of forests bordering fields should be cleared of barberry in such a way as to form a protection zone, 200 m. in width, entirely free from this plant. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. März 1938, Bd. X, Nr. 2, S. 26).

*** By Circular of February 21, 1938, relating to vines for grafting, a list is given of the varieties which may be grown for this purpose during 1938 with the consent of the competent authority. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin, Anfang April 1938, 18. Jahrg., Nr. 4, S. 35).

*** The fifth Decree of February 23, 1938 relating to the Colorado beetle [*Leptinotarsa decemlineata*] supersedes the Decrees of April 15, 1937 [see this *Bulletin*, 1937, No. 8, p. 178] strengthening the measures taken against this pest. Cultivators of potato fields in the area defined in an appendix to this Decree, are required to treat them with repeated sprayings of calcium arsenate, powders being forbidden. Weeds in flower will have to be removed before beginning of the treatment.

The administrative authority will have the right, on fields where the Colorado beetle is detected, to compel the persons concerned to create trap-strips of land according to a method which will be described by the Special Service for the Colorado beetle control. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. April 1938, Nr. 3, S. 45-47).

*** The sixth Decree of the same date relating to Colorado beetle contains measures for preventing the insect from spreading in the Reich.

Severe measures are applied to the infested area, defined in an appendix. It is forbidden to transport out of this area potatoes, tomatoes, tap-roots (carrots, turnips, etc.), plants with their roots, onions, bulbs, rhizomes, leaves of potatoes and tomatoes, organic earth, manure and also, from 1 April to 14 November, green vegetables and other green kitchen garden produce and all the standing part of vegetables.

An exception to this rule is made for plants grown under glass provided they are accompanied by a certificate of the competent Plant Protection Service declaring the plants to be free of the Colorado beetle. The same exception applies to bulbs, tubers and rhizomes of ornamental plants including gloxinias and begonias. A model of the certificate in question is annexed to the Decree.

Nursery products may be exported from the infested area if accompanied by a certificate issued by the Plant Protection Service certifying that the roots of the plants have been washed and that the package is free of earth and exempt from the Colorado beetle. The package or truck containing the plants must carry the seal of the Service.

Exceptions to these arrangements may be made in special cases provided that the produce required to be transported from the infested area to the unin-

fected area comes from an uninfected commune and that the goods are certified free of the Colorado beetle and bear the seal of the Plant Protection Service.

Similar but less severe measures are taken in the area under observation, which is precisely defined in annex 2 of the Decree.

Finally, a third annex modifies the appendix to the first Decree of April 15, 1937 on the Colorado beetle [see this *Bulletin*, 1937, No. 8, p. 178] defining a danger zone (' Gefahrzone '), in which agricultural, market garden and horticultural crops are under official control. (*Ibid.*, S. 47-53).

*** By Decree of March 5, 1938 the Minister of Agriculture modified the Decree of October 20, 1937 [see this *Bulletin*, 1938, No. 2, pp. 29-30] granting facilities for the import and transit of horticultural products from France, Belgium, Luxemburg and Switzerland.

Henceforward it will be possible during the whole year to import not only rhizomes and tubers of gloxinias and begonias but also bulbs of all kinds of horticultural plants.

The import of chicory is permitted this year from 1 to 30 April. (*Ibid.*, S. 53-54).

*** By Ministerial Regulation of March 8, 1938, based on the Decrees of March 28, 1929 and September 30, 1932 [see this *Bulletin*, 1929, No. 6, p. 83; 1932, No. 12, p. 205], designed to prevent the introduction of the carnation leaf roller [*Tortrix pronubana*], the importation of carnations (cut flowers) is permitted until April 30, 1938. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Anfang April 1938, Nr. 4, S. 36).

*** The general instructions given for seed testing on March 12, 1936 [see this *Bulletin*, 1936, No. 7, p. 146] were revised and republished on March 10, 1938. (*Ibid.*, S. 34-35).

*** By Notification of March 21, 1938, a revised list has been published of the horticultural and botanical establishments, nurseries and gardens subjected to regular inspection and officially recognized as complying with the conditions determined by the Berne International Phylloxera Convention. (*Ibid.*, Anfang Mai 1938, Nr. 5, S. 47-48).

Germany (Bremen). — By Ordinance of March 12, 1938, it is laid down that as an exception to the prohibition to cultivate potato varieties non-resistant to wart disease [*Synchytrium endobioticum*], persons growing early potatoes for commercial purposes may obtain authorization to cultivate the ' Erstling ' variety, which is not resistant to wart disease. The area, however, which each of these persons will cultivate with this variety in 1938 should not exceed that under

cultivation in 1937, and in 1939 should not be more than half of the area planted in 1938. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Mai 1938, Bd. X, Nr. 4, S. 67).

Germany (**Mecklenburg**). — By Decree of February 3, 1938 relative to the control of wart disease of the potato [*Synchytrium endobioticum*] Article 2 of the Decree of November 26, 1936 [see this *Bulletin*, 1937, No. 3, p. 53] has been re-enforced. In accordance with this Article, on fields with a surface area inferior to 2500 m², only the potato varieties resistant to wart disease may be planted. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. März 1938, Bd. X, Nr. 2, S. 27).

*** By Decree of March 7, 1938, a list is published of the varieties of potatoes non-resistant to wart disease [*Synchytrium endobioticum*] which may still be cultivated. (*Ibid.*, 1. April 1938, Nr. 3, S. 55).

Germany (**Oldenburg**). — By Decree of March 28, 1938, the planting of potato varieties non-resistant to wart disease [*Synchytrium endobioticum*] is prohibited in one section of Oldenburg State.

In the remainder of the country, the planting of non-resistant varieties is authorized provided that the varieties in question have already been grown previous to the current year and that the area planted does not exceed that under cultivation in 1937. The area planted with potato varieties which are not resistant to wart disease should in 1939 be reduced to half that under cultivation in 1938. From 1940, among the non-resistant varieties, only ' Erstling ', ' Industrie ' and ' Centifolia ' may be planted. (*Amtliche Pflanzenschutbestimmungen*, Berlin, 1. Mai 1938, Bd. X, Nr. 4, S. 67-68).

Germany (**Pomerania**). — By Decree of March 1, 1938, the control of the codling moth [*Cydia pomonella*] is made compulsory in the Köslin district. The measures established are identical with those adopted in Saxony by Decree of March 15, 1938 [see this *Bulletin*, 1938, No. 7, p. 151]. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Mai 1938, Bd. X, Nr. 4, S. 69).

Germany (**Prussia**). — Under a Police Ordinance of December 11, 1937 for the protection of bees, it is forbidden in the province of Hanover to treat with arsenical compounds the blossoms of fruit trees or of any melliferous and horticultural plant. This restriction applies particularly to asparagus and colza crops in flower. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. April 1938, Bd. X, Nr. 3, S. 56).

*** By two Decrees of February 6, 1938, the control of the woolly aphis (*Schizoneura lanigera* [= *Eriosoma lanigerum*]), the mottled umber moth [*Hybernia*] and the winter moth [*Cheimatobia*] is rendered compulsory in the district of Liegnitz, Silesia Province. (*Ibid.*, 1. März 1938, Nr. 2, S. 27-30).

Germany (**Saxony**). — A Notification of February 15, 1938 states the varieties of potatoes not resistant to wart disease [*Synchytrium endobioticum*], which may however still be planted under certain conditions. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. März 1938, Bd. X, Nr. 2, S. 30).

*** By Decree of February 19, 1938 the campaign against the beet leaf bug (*Piesma quadrata*) was further regulated. A distinction is made between districts attacked and districts comprising the ' observation area '. In the former area preventive measures must be taken by everyone having land which they intend to cultivate with beet, white-beet or spinach, or land used in the last three years for these crops.

Fields to be used for beet cultivation must be encircled by trap-bands [strips of land sown with beet to attract the insects and then ploughed up]. Fields exceeding ½ ha. in extent will have to be entirely surrounded with trap-band. Smaller fields will have to have a trap-band along their length.

The administrative authority will fix the date by which the bands will have to be sown; it will also decide the period in which the trap-bands must be ploughed up in order to destroy the young beet plants, which it is forbidden to use as fodder. It will also fix the date after which it will be permitted finally to sow the fields to beet.

Spinach and white-beet must not be sown between the date fixed for sowing the trap-bands and the date of their ploughing up. On lots sown before this period, harvesting must take place before the date fixed for sowing the trap-bands, and the fields will have to be ploughed immediately after the harvest.

The planting of beet plants for seed production is only permitted if the field is encircled with a trap-band and must not take place before the beet sown in the latter have formed the first leaves after the cotyledons.

It is forbidden to take beet plants out of the communes of the districts attacked.

In the ' observation area ' beet, white-beet and spinach cultivation is under the control of the Plant Protection Service, in order to detect as quickly as possible the presente of the insect. Land where a serious attack has been made will have to be immediately ploughed up. (*Ibid.*, S. 31-34).

*** By Decree of March 15, 1938 the campaign against the codling moth [*Cydia pomonella*] is made compulsory.

It is obligatory to encircle the trunks of apple and pear trees with bands to trap the larvae. In areas where the insect habitually produces two generations in a year, the bands will have to be removed about the end of July and immediately renewed. (*Ibid.*, 1. April 1938, Nr. 3, S. 56-57).

Germany (**Schaumburg-Lippe**). — A Notification of February 5, 1938 gives a list of the varieties of potato non-resistant to wart disease [*Synchytrium endobioticum*] which may be planted up to February 28, 1941. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. März 1938, Bd. X, Nr. 2, S. 34-35).

Colombia. — Resolution No. 209 of May 4, 1937 defines the duties of the entomologist of the Ministry of Agriculture and Commerce relative to the control of the pink bollworm of cotton (*Pectinophora* [*Platyedra*] *gossypiella*) which has been found for the first time in plantations on the Atlantic coast. (*Diario Oficial*, Bogotá, 11 de febrero de 1938, año LXXIV, núm. 23702, pág. 510).

Belgian Congo. — By Ordinance No. 128/Agri., of December 17, 1937, in every plantation where Government agronomists, mycologists or entomologists have detected cryptogamic or parasitic diseases of a dangerous character for neighbouring plantations, owners or directors will be required:—

(1) To assist in combatting the parasites according to the instructions given by the provincial governor. However, to avoid unfair delays agents of the Agricultural Service have the right to order all necessary measures to be taken in the name of the Governor, but are required to inform the latter as soon as possible.

(2) To destroy, particularly by incineration, dead or dying trees, destroyed stumps or any rubbish heaps, which are favourable breeding-grounds for insects and cryptogamic diseases. (*Bulletin Administratif du Congo Belge*, Léopoldville, 25 décembre 1937, 26me année, nº 24, p. 715-716).

France. — By Circular No. 139 of January 4, 1938, the Minister of Agriculture draws the attention of the officers for the suppression of frauds to the measures of the Decree of May 11, 1937 [see this *Bulletin*, 1937, No. 9, pp. 203-204] regulating the application of the Law of August 4, 1903, modified by the Law of March 10, 1935 [see this *Bulletin*, 1935, No. 7, p. 159] regarding the prevention of frauds in the trade of products utilized in the control of plant pests and diseases. (Ministère de l'Agriculture. Direction de l'Agriculture. *Bulletin de l'Office de Renseignements agricoles*, Paris, 15 janvier 1938, année 1938, nº 2, p. 50-53).

Morocco (French Zone of). — A Decree of the Director of Waters and Forests, dated January 7, 1938, authorizes the destruction of rabbits, which have been causing considerable damage in the riverside properties of the forest of the Mamora (valleys of the oued Tiflèt and the oued Smento). (Empire chérifien. Protectorat de la République française au Maroc. *Bulletin Officiel*, Rabat, 18 février 1938, XXVIIe année, nº 1321, p. 247-248).

*** Two Decrees of the Director of Economic Affairs, dated January 7 and 14, 1938, authorize the establishment of the Syndical Association for the control of plant parasites of Zouarha and the Syndical Association for the control of plant parasites of Saïs, respectively. (*Ibid.*, 21 janvier 1938, nº 1317, p. 99-100).

*** A Decree of the Director of Waters and Forests, dated January 11, 1938, authorizes the destruction of rabbits which have been causing considerable damage in the areas situated on the right bank of the Sebou oued, above Mechrabel-Ksiri. (*Ibid.*, 28 janvier 1938, nº 1318, p. 139-140).

*** A Decree of March 12, 1938 relative to the inspection of oranges for industrial use for export lays down that all oranges exported should be perfectly clean and sound; oranges in too advanced a stage of ripeness, showing traces of external or internal parasites (especially Mediterranean fruit-fly [*Ceratitis capitata*]) and bruised or cut fruits, will be eliminated as unsuitable for export. (*Ibid.*, 25 mars 1938, nº 1326, p. 437).

*** A Decree of March 18, 1938 laying down the conditions which must be fulfilled when exporting tomatoes to England, prohibits, *inter alia*, the export of fruits attacked by disease or insects. (*Ibid.*, 1er avril 1938, nº 1327, p. 467-468).

New Zealand. — By Special Order made by the Rangitikei County Council on January 28, 1938 and published by the Minister of Agriculture on February 1, 1938, barberry (*Berberis vulgaris*) has been declared to be a noxious weed in the said County. (*The New Zealand Gazette*, Wellington, February 3, 1938, Numb. 7, p. 160).

Switzerland (Canton of Berne). — By an Ordinance of July 20, 1937 the following central offices for the campaign against the Colorado beetle [*Leptinotarsa decemlineata*] are appointed in the Canton of Berne: (*a*) for the German part of the Canton: the Agricultural School of Rütti-Zollikofen; (*b*) for the Jura, including the Laufon district: the Agricultural School of Courtemelon-Delémont.

At the request of the central office, each commune appoints a commissioner to carry out, according to his powers, all measures required to be taken against the pest.

Everyone is required, on pain of prosecution, to report immediately to the communal commissioner or authority any trace of the Colorado beetle found, if possible presenting the adults, larvae or eggs.

The schools may be required to visit potato fields under the direction of the instructors.

The expenses of the campaign—in so far as they are the result of measures directly ordered by the central office or by the communal commissioner appointed—such as the disinfection of contaminated land, indemnity for plantations destroyed, materials used for disinfection and the travelling and administrative expenses of the central offices, will be charged to the canton in so far as they are not borne by the Confederation. The expenses of the commissioner will be borne by the commune. (*Bulletin des lois, décrets et ordonnances du canton de Berne*, Berne, s. d., année 1937, tome XXXVII de la nouv. sér., p. 87-89).

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After some general remarks on the importance of establishing plant varieties resistant to diseases and pests, the authors discuss the phenomena on which these studies are based: variation according to the varieties of host plants, knowledge of the life history of the parasite and its physiological races, methods of artificial infection, influence of environment on the relation between the host plant and the parasite.

The nature of resistance is then discussed. The authors define resistance and immunity and discuss the connection between the host plant and the parasite, from simple symbiosis to parasitism.

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Next the animal pests are treated:— Nematoda, *Dactylosphaera vitifolii, Eriosoma lanigerum, Amphorophora onobrychis, Blissus leucopterus, B. hirtus, Empoasca fabae, E. facialis, Cicadula sexnotata, Thrips tabaci, Mayetiola* (*Phytophaga*) *destructor, Oscinis frit, Contarinia tritici, Grapholitha* spp., *Bruchus pisi, Pyrausta nubilalis, Homoeosoma nebulella, Leptinotarsa decemlineata.*

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